

Atypical preeclampsia – Gestational proteinuria

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ABSTRACT

There are many rural areas where obstetric care is predominately performed by family medicine physicians. As such, it is important for family medicine physicians to stay up to date with the latest obstetric guidelines. Preeclampsia is a well-established disorder and the guidelines for screening and treatment are well known. However, atypical presentations of preeclampsia have been less studied. Notably, what constitutes atypical preeclampsia and when to be concerned for increased morbidity and mortality in the mother and neonate. This report describes a unique case in which a woman with proteinuria of pregnancy developed atypical preeclampsia with severe features. This report discusses the care that was given by a practicing family medicine physician and the reasoning behind it.

Keywords: Atypical, preeclampsia, pregnancy, proteinuria

Introduction

The following is a unique case of a woman with proteinuria of pregnancy, who developed a type of atypical preeclampsia with severe features but did not develop elevated blood pressures.

Case Report

A 25-year-old female presented for routine prenatal care. She was a G3P1011 and had had one elective abortion as a teenager and one full-term delivery 3 years prior. She had preeclampsia with her previous pregnancy and was induced around 39 weeks' gestational age. More details of this prior pregnancy were unavailable. During the third pregnancy, her blood pressure and urine protein were monitored closely. At 22 weeks and 2 days gestational age, she had early 24-h urine that was mildly elevated at 340 mg but had normal blood pressures and was asymptomatic. She was started on a baby aspirin daily, which she continued throughout her pregnancy. By 32 weeks and 2 days gestational age, she had another 24-h urine that was severely elevated at 770 mg. She still had normal blood pressures and was asymptomatic. At 37 weeks and 1 day gestational age, she

presented with worsening lower extremity edema, headaches, intermittent spots in her vision, nausea, and vomiting. Her blood pressure was still normal and her deep tendon reflexes were normal. She had an elevated protein/creatinine ratio in her urine of 1.69 mg/dL (normal is <0.3 mg/dL). Her pregnancy-induced hypertension panel was normal. As she did not meet the criteria for preeclampsia, the decision was made to expectantly manage with close follow-up. The next morning, she was still symptomatic with headaches and nausea despite medications; however, her blood pressure remained normal. At this point, the decision was made to admit her in the hospital for induction of labor secondary to atypical preeclampsia with severe features. She was given intravenous (IV) magnesium during her induction and in her immediate postpartum period. She delivered a baby girl vaginally at 37 weeks and 3 days gestational age. The neonate was admitted to the Neonatal Intensive Care Unit for respiratory distress and was diagnosed with hyaline membrane disease and right-sided pneumothorax. She received two doses of surfactant and was discharged home on day 8 of life. At the mother's 6-week postpartum visit, she still had proteinuria with 3+ protein on her dipstick urine. She will be worked up for other causes of proteinuria.

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Discussion

Preeclampsia is a multisystem disorder that is characterized by both new-onset hypertension and proteinuria or signs of end-organ dysfunction in the second half of pregnancy. Preeclampsia complicates 2%–8% of all pregnancies and is a major cause of maternal and perinatal morbidity and mortality.^[1] Up to 18% of maternal deaths worldwide are caused by complications of preeclampsia with around 70,000 deaths per year.^[2]

The accepted definition is elevated blood pressure (≥ 140 systolic or 90 diastolic on at least 2 occasions 4 h apart) after 20 weeks gestation and up to 48 h postpartum in a previously normotensive patient and proteinuria (≥ 0.3 g in a 24 h urine specimen) or end-organ dysfunction.^[3] According to the American College of Obstetricians and Gynecologists, the hypertension aspect is required for the diagnosis presented with either proteinuria, end-organ dysfunction, or both.^[3]

Now, there is more evidence showing that patients who do not meet these diagnostic criteria also have higher risk for adverse maternal and neonatal outcomes.^[4,5] The term atypical preeclampsia is being used to include these incomplete clinical presentations.^[6] The goal of this new approach is to prevent consequences of delayed or missed detection. Specifically, patients with gestational hypertension have been shown to be at an increased risk (25%–50%) for developing preeclampsia.^[7] However, there are no prospective studies that have evaluated the risk of developing preeclampsia in patients with gestational proteinuria.^[6]

Atypical preeclampsia as defined by Sibai and Stella^[5] comprises of 4 clinical groups. Nonproteinuric gestational hypertension plus the presence of severe hypertension or symptoms or laboratory signs suggestive of microangiopathy/hemolysis; normotensive gestational proteinuria with the presence of symptoms or laboratory signs suggestive of microangiopathy/hemolysis; the presence of preeclampsia, eclampsia, or HELLP syndrome appearing after 48 h postpartum; and preeclampsia appearing before 20 weeks of pregnancy.

Preeclampsia with severe features is defined by preeclampsia with the presence of one or more of the following: new-onset cerebral or visual disturbances, persistent right upper quadrant or epigastric pain indicating hepatic abnormality, severe blood pressures ≥ 160 systolic or 110 diastolic on two occasions, thrombocytopenia (platelets $< 100,000$), progressive renal insufficiency (serum creatinine > 1.1 mg/dL or doubling of serum creatinine), or pulmonary edema.

This patient developed signs of capillary leak in the form of proteinuria that continued to worsen throughout her pregnancy. She was monitored closely for the development of typical

preeclampsia as well as the development of organ dysfunction. At 37 weeks gestational age, she developed symptoms compatible with severe features if she had been a typical case of preeclampsia. Her laboratory tests other than her proteinuria remained normal, but her severe symptoms persisted. Ultimately, the decision was made to call her atypical preeclampsia with severe features and admit her for IV magnesium and induction of labor to prevent further complications.

It is unclear whether this patient would have developed eclampsia if her physicians had chosen not to intervene. She met the criteria for preeclampsia with severe features, with the only exception being high-range blood pressures. If she had elevated blood pressures, then the case would have been straightforward and the decision to intervene established by the current guidelines. Since diseases exist on a spectrum, it is important to keep this in mind when making decisions about patient care and determining the best interest for the patient.

This case demonstrates the need for the future research in this area. Gestational proteinuria may itself belong to the spectrum of preeclampsia; the same way gestational hypertension is. It is important to follow patients with gestational proteinuria carefully as they may have an increased risk of developing typical preeclampsia or they may even develop severe features as in this case study. Careful monitoring and questioning of symptoms may help prevent morbidity and mortality from this established condition in yet to be established ways.

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Conflicts of interest

There are no conflicts of interest.

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